

XXV.—*A Collection of Bats from Formosa.* By AUGUSTA ÅRNBÄCK-CHRISTIE-LINDE, Zootomical Institute, University of Stockholm.

THE Zootomical Institute lately received from Mr. Hans Sauter a collection of bats from Formosa which Professor Leche submitted to me for identification.

As there are in this collection a new species of *Myotis* and other bats but little known or not before recorded from this island, I hope the following list will be of some interest.

*Myotis taiwanensis*, sp. n.

6 ♂, 9 ♀. Takao, Anping, Tainan, Formosa; July, September, October, 1906-1907.

*Teeth.*—The upper incisors are almost equal in size. The outer cusp of the bifid inner incisors is decidedly shorter than the inner.  $pm^2$  (middle upper premolar) is small, but distinctly visible from without, and situated in the tooth-row;  $p^1$  and  $p^3$  are therefore quite separated.

In the lower jaw  $pm^2$  is reduced in size, but not internal to the tooth-row.

*Ear.*—Inner margin of the ear-conch straight below, faintly convex above, with a slight flattening below the tip. Outer margin not very deeply emarginated, straight above, terminating opposite the base of the inner margin in a lobe. The tip of the ear is obtusely rounded. Ears shorter than the head; their extremities do not reach the end of the muzzle when laid forwards.

Tragus straight, of about the same shape as in *Myotis daubentonii*; the inner margin straight, the outer faintly convex; somewhat narrower towards the tip, which is rounded and reaches the middle of the inner margin of the ear-conch.

*Colour* (so far as can be determined from preserved specimens).—Fur yellowish brown above, dark brown with white extremities beneath. Interfemoral membrane and ears light brown, wing-membrane dark brown.

*Measurements.*—*Myotis taiwanensis* is of about the same size as *M. adversus*.

	♂.	♀.
	mm.	mm.
Skull, total length to front of incisors . . . . .	15.5	..
Length, head and body . . . . .	49	..
"    tail . . . . .	38	39
"    head . . . . .	18	..

	♂.	♀.
	mm.	mm.
Length, ear, outer margin . . . . .	16	..
"  "  greatest breadth . . . . .	8	..
"  tragus, outer margin . . . . .	8	..
"  forearm . . . . .	40	41
3rd finger, metacarpus . . . . .	34	36
"  1st phalanx . . . . .	12	13
"  2nd phalanx . . . . .	9	10
4th finger, metacarpus . . . . .	34	35
"  1st phalanx . . . . .	11	..
"  2nd phalanx . . . . .	8	..
5th finger, metacarpus . . . . .	33	..
"  1st phalanx . . . . .	10	..
"  2nd phalanx . . . . .	7	..
Thumb, with claw . . . . .	8	..
Lower leg . . . . .	18	..
Foot, with claws . . . . .	11	..

*Other external characters.*—Last tail-vertebra projects beyond the membrane. The wing-membrane is attached to the ankle. Calcaneum very long, reaching about two-thirds the distance from the ankle to the last tail-vertebra.

Claws rather long. The interfemoral membrane forms an acute angle in the centre of its margin behind.

*Affinities.*—According to Dobson\*, who in his Catalogue has divided the genus *Vespertilio* (*Myotis*) into the two subgenera *Leuconöe* and *Vespertilio*, *Myotis taiwanensis* should be referred to the former subgenus. Among hitherto known species it seems to be nearest allied to *M. adversus*, as Dobson has described it (*l. c.*), but differs from that species chiefly with regard to the premolars, which agree with those of *M. dryas*, a near ally of *M. adversus* and lately described by K. Andersen †. As regards the incisors, *M. taiwanensis* agrees with *M. adversus* and not with *M. dryas*.

*Hab.* Island of Formosa (Taiwan).

This species and *Myotis formosus* are, so far as I know, the only species of *Myotis* hitherto recorded from Formosa.

### *Pipistrellus abramus*, Temm.

11 ♂, 17 ♀. Takao, Anping, Kagi, Formosa; May, July, August, September, October, 1906–1907.

The collection contains both adult and young specimens, varying somewhat in the colour of the fur, which may

\* G. E. Dobson, 'Catalogue of the Chiroptera in the British Museum' (London, 1878).

† Knud Andersen, 'Annali d. Mus. Civ. d. Storia naturale di Genova,' ser. 3, vol. iii. (1907).

depend on their having been taken in different seasons. Apart from this they agree with Dobson's description.

*Miniopterus schreibersi japonice*, Thomas.

21 ♂, 27 ♀. Tainan, Formosa; October 1906.

This genus has not before been recorded from Formosa. The specimens in the collection agree best, as regards size and colour, with Thomas's\* description of this species. I will only remark that the length of head and body of these specimens varies from 50 to 56 mm.

*Rhinolophus monoceros*, Andersen.

2 ♂. Kagi, Takao, Formosa; May, October, 1907.

Only one species of the genus *Rhinolophus*, *R. monoceros*, represented by a single specimen, has hitherto been recorded from Formosa. In his paper "On Bats of the Genus *Rhinolophus*" † Andersen gives a short description of this specimen (a not full-grown female), the only one known to him.

There are two *Rhinolophi* in the collection submitted to me for determination; both of them are males. I have identified them as *Rhinolophus monoceros*, with which species the connecting-process, the size, and the locality agree rather closely.

The connecting-process is somewhat broader at the base and not quite so slender in one specimen as in the other, which entirely agrees with Andersen's text-figure 22, c, p. 121 (*l. c.*); but as I cannot find any other notable difference, I have not hesitated to refer it to the aforesaid species.

As the specimen described by Andersen is a female and only a few measurements are given by him, I hope the following table will be of some use:—

*Measurements* (♂ ad.).

	mm.
Ears, length . . . . .	17
„ greatest breadth above antitragus .	11·5
Nose-leaves, total length . . . . .	10·5
Horseshoe, breadth . . . . .	6·5
Forearm . . . . .	36·5
3rd finger, metacarpus . . . . .	26·5
„ 1st phalanx . . . . .	11
„ 2nd phalanx . . . . .	13

\* Oldfield Thomas, "On Mammals from Japan," Proc. Zool. Soc. London, 1905, ii. p. 338.

† Knud Andersen, Proc. Zool. Soc. London, 1905, ii. p. 131.

	mm.
4th finger, metacarpus .....	27
"    1st phalanx .....	9
"    2nd phalanx .....	10
5th finger, metacarpus .....	27
"    1st phalanx .....	9
"    2nd phalanx .....	10
Tail .....	18.5
Lower leg .....	16
Foot .....	7

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XXVI.—*Diagnoses of new Fishes discovered by Capt. E. L. Rhoades in Lake Nyassa.* By G. A. BOULENGER, F.R.S.

A LARGE collection of fishes from Lake Nyassa, comprising examples of thirty-four species, twelve of which are undescribed, has been presented by Capt. E. L. Rhoades to the British Museum. Most of the specimens are in an excellent state of preservation, and their value is much enhanced by coloured sketches made by Capt. Rhoades himself from them in the fresh condition. Thanks to this rich material, I hope ere long to prepare for publication an illustrated account of the fishes of Lake Nyassa. In the meanwhile I have drawn up diagnoses of the new species.

*Barbus rhoadesii.*

D. IV 8. A. III 5. L. lat. 37-40. L. tr.  $\frac{6\frac{1}{2}-7\frac{1}{2}}{6\frac{1}{2}}$ .

Depth of body  $3\frac{2}{5}$  to  $3\frac{2}{3}$  times in total length, length of head  $3\frac{2}{3}$  to 4 times. Snout rounded,  $3\frac{1}{4}$  to  $3\frac{1}{3}$  times in length of head, eye 5 times, interorbital width  $3\frac{2}{3}$  to 4 times; width of mouth 3 to  $3\frac{1}{2}$  times in length of head; lips moderately developed, interrupted on the chin; barbels 2 on each side, anterior minute, posterior  $\frac{1}{3}$  to  $\frac{1}{2}$  diameter of eye. Last simple ray of dorsal very strong, bony, not serrated, rigid portion about  $\frac{1}{2}$  length of head. Ventrals immediately in front of origin of dorsal. Caudal peduncle  $1\frac{2}{3}$  to  $1\frac{3}{4}$  times as long as deep. 3 or  $3\frac{1}{2}$  scales between lateral line and ventral, 16 or 18 round caudal peduncle. Olive to dark green above, white beneath.

Six specimens, measuring 250 to 325 mm.